

# Mineral Industry Surveys

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## PRECIOUS METALS IN SEPTEMBER 2003

U.S. mines produced 23,100 kilograms (kg) of gold and 107,000 kg of silver in September 2003. Compared with August 2003, production of gold was up 12% in California, and production of silver was up 11% in Nevada. Table 8 lists the top 30 gold-producing mines in the United States for the first 9 months of 2003.

### Gold

**Domestic.** CNewmont Mining Corp. (Denver, CO) reported that its subsidiary, Newmont Mining Corp. of Canada Ltd., agreed to sell 28 million of its 43.2 million shares of Kinross Gold Corp. The shares were offered for resale in Canada and on a private placement basis outside of Canada. Upon completion of the transaction, Newmont will own 4.9% of Kinross shares (Platts Metals Week, 2003f).

**International.** CGold Fields Mineral Services Ltd. (GFMS) reported that global gold supply rose 6% during the first half of 2003. The bulk of the increase came from the recycling of old gold scrap, as gold produced from mines only increased marginally by 3%. Gold recycled from old scrap soared 18.9%. Large amounts of gold scrap came out of Egypt because of the weakness of the pound and the strength of the dollar. On the demand side, GFMS reported that consumer gold demand fell 2.3%. Of the total demand, jewelry fell 1.4% and retail investment dropped 9.6%. At current gold prices, the physical gold market is quiet in Asia; people are not willing to buy (Platts Metals Week, 2003c).

Australia's gold mining output rose almost 5% to 285,000 kg (9.2 million troy ounces) of gold in the 12 months that ended June 30, 2003. Much of the increase, which is the first increase in 5 years, is attributed to the ramp up of existing operations plus a few new operations commencing gold production. New mines that came on stream included the Thunderbox Mine in Western Australia and the Challenger Mine in South Australia. Currently, Australia has about 60 gold mines and is the world's

third-largest gold producer after South Africa and the United States (Platts Metals Week, 2003a).

Highland Gold Mining Ltd. secured the freehold title to the deeds for the Mnogovershinnoye gold mine in Russia's far eastern region. Highland won an auction beating four competitors with a bid of \$26.7 million while sustaining uninterrupted gold production from the mine. The title also included buildings, equipment, and other property at the mine (Platts Metals Week, 2003e).

Minmet plc acquired European Metals and Minerals Ltd. with worldwide rights to a bioleaching technology that is designed to enhance the recovery of precious metals from mine concentrates, tailings, and ore which cannot be cost-effectively treated using conventional methods. The technology could be used to treat concentrates on leach pads with bacteria selected for specific mineral assemblages. The bacteria oxidize the sulfides over a 3-month time period thereby releasing the entrained gold. Subsequently, the gold is recovered by using conventional cyanide methods. In addition, the technology could be used to accelerate the oxidation of heaps prior to conventional heap leaching. Minmet plans to identify suitable sites for use of this technology in northern and central Europe (Mining Journal, 2003).

South African Durban Roodepoort Deep Ltd. (DRD) is in acquisition talks with an unnamed company in Australasia after \$43 million was gained from a call option made by the South African investment bank Investec Group. Currently, DRD owns the Tolukuma Mine in Papua New Guinea and 20% of the Emperor Mine in Fiji (American Metal Market, 2003). DRD also agreed to deal with three unions at its North West gold mining operations in South Africa. The agreement includes proposals that would return two shafts to economic viability and save up to 1,550 jobs at the North West operation's Buffelsfontein gold mine. Proposals include working a full shift one Saturday a month for no extra pay, introduction of full calendar operations, implementation of revised work practices

in winter months to reduce peak power consumption, and revised productivity bonus schemes. Similar measures would not be sufficient to save other shafts under threat of closure at North West operations. The larger National Union of Mineworkers has reached a similar agreement and decided not to strike (Platts Metals Week, 2003b).

The gold market rose to levels not seen for seven and a half years, then fell. On September 25, the gold price in London at the AM Fix rose to \$393.80 per ounce, then declined to \$380.80 per ounce on September 26 (Platts Metals Week, 2003d).

### **Silver**

In the third quarter of 2003, Coeur d'Alene, ID-based Hecla Mining Company produced 81,000 kg of silver at an average cash cost of \$1.33 per ounce. During the first 9 months of the year, Hecla produced 234,000 kg of silver at an average cash cost of \$1.52 per ounce, compared with 199,000 kg of silver at an average cash cost of \$2.32 per ounce in the first 9 months of 2002. Cash costs were positively influenced by the increased price of gold, an important byproduct of Hecla's silver operations that is used to offset the cost of producing silver. The improvement in operations at Hecla's silver segment was driven by continued high output from the Greens Creek Mine in Alaska, in which Hecla holds a 29.73% interest. Greens Creek produced 105,000 kg of silver (31,100 kg for Hecla's account) in the third quarter at an average cash cost of \$1.14 per ounce. For the first 9 months of 2003, Greens Creek produced more than 273,000 kg of silver (81,000 for Hecla's account) at an average cash cost of \$1.25 per ounce. The average ore grade at Greens Creek during the third quarter was more than 680 grams per ton (g/t) of silver, compared with 640 g/t of silver in the same period of 2002. Meanwhile, Hecla's Lucky Friday Mine in northern Idaho produced only 15,600 kg of silver during the third quarter and 53,000 kg during the first 9 months of 2003. The average cash cost at Lucky Friday for the first 3 quarters was \$4.75 per ounce (Hecla Mining Company, 2003).

### **Platinum-Group Metals**

Platinum started August trading in the low \$680s per ounce; by mid-month the price went above \$690 per ounce. Speculative buying caused platinum prices to rise to a 23-year high of \$709 per ounce on August 28 at the London morning fixing. The price surge continued, breaking through \$710 per ounce to reach \$714 per ounce bid on September 2. Speculators were enticed to look at platinum due to some favorable publicity concerning the metal's future. First, platinum trading on the Shanghai Gold Exchange (SGE) started on August 13. Trading on the exchange will be encouraged due to the exemption of the 17% value-added-tax, the fact that it will be the only place in China for legal trading of platinum, and import tariffs will be returned to importers immediately. At present, trading can only

take place between SGE's 108 existing members. China is the world's leading importer of platinum metal with an annual consumption of about 31,100 kg and a production of only 1,000 kg. Second, hydrogen fuel cells for vehicles and other uses have received coverage in the press, giving rise to speculation that the mass production of hydrogen-powered vehicles that use platinum catalysts will begin soon. Also, power outages in the northeastern United States resulted in increased interest in alternative energy sources such as fuel cells that use platinum (Antaika Precious & Minor Metals Monthly, 2003; Platts Metals Week, 2003g).

Spent organic-based catalysts, which contain precious metals, have traditionally been treated by incineration to recover the precious metal content. Incineration destroys the organic content of the catalyst and leaves an ash, which, before chemical recovery is started, is sampled to determine the precious metal content. A new more environmentally friendly process developed by Johnson Matthey allows a spent heterogeneous catalyst, such as palladium or platinum on a carbon support, to have the metal content evaluated prior to treatment, directly from the as-received samples. The process has two stages, the first of which is to determine the precious metals content of a catalyst using direct sampling technology. The second stage involves supercritical water oxidation, during which the carbonaceous material is converted into less noxious compounds, leaving the precious metals as their oxides (Platinum Metals Review, 2003).

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TABLE 1  
MINE PRODUCTION OF RECOVERABLE GOLD AND SILVER IN THE UNITED STATES, BY STATE<sup>1</sup>

(Kilograms)

Gold	Alaska	California	Nevada	Other States <sup>2</sup>	Total
<b>2002:</b>					
September	W	709	20,800	4,160	25,600
October	W	569	21,400	4,350	26,300
November	W	519	19,400	4,090	24,000
December	W	534	22,800	4,350	27,700
January-December	W	9,180	240,000	48,500	298,000
<b>2003:</b>					
January	W	507	19,000	3,620	23,100
February	W	476	16,800	3,210	20,500
March	W	445	17,800	3,950	22,200
April	W	425	15,700	3,850	20,000
May	W	396	17,600	3,650	21,600
June	W	381	21,200	4,120	25,700
July	W	308	20,600	3,910 <sup>r</sup>	24,800 <sup>r</sup>
August	W	311	19,200	4,130 <sup>r</sup>	23,600
September	W	348	18,600	4,160	23,100
January-September	W	3,600	166,000	34,600	205,000
Silver	Arizona	Idaho	Nevada	Other States <sup>3</sup>	Total
<b>2002:</b>					
September	W	W	30,200	78,700	109,000
October	W	W	38,100	86,100	124,000
November	W	W	24,200	81,000	105,000
December	W	W	32,600	81,400	114,000
January-December <sup>p</sup>	W	W	424,000	996,000	1,420,000
<b>2003:</b>					
January	W	W	24,700	81,400	106,000
February	W	W	19,600	75,300	94,800
March	W	W	25,800	83,400	109,000
April	W	W	21,500	71,500	93,000
May	W	W	27,700	78,400	106,000
June	W	W	26,600	79,000	106,000
July	W	W	28,900	70,300	99,200 <sup>r</sup>
August	W	W	28,800	68,800	97,600
September	W	W	32,000	75,100	107,000
January-September	W	W	236,000	683,000	919,000

<sup>p</sup>Preliminary. <sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included with "Other States."

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes Arizona, Colorado, Idaho, Montana, New Mexico, South Carolina, South Dakota, Utah, Washington, and State indicated by symbol W.

<sup>3</sup>Includes Alaska, California, Colorado, Missouri, Montana, New Mexico, New York, South Carolina, South Dakota, Tennessee, Utah, Washington, and States indicated by symbol W.

TABLE 2  
SELECTED PRECIOUS METAL PRICES

(Dollars per troy ounce)

	Gold	Silver	Platinum	Palladium
<u>Engelhard Industries:</u>				
2002:				
Low/date	278.62 January 29	4.26 January 31	454.00 February 1	225.00 December 23
High/date	350.54 December 27	5.15 June 4 and July 15	610.00 December 17	439.00 January 3
Average	311.33	4.62	542.56	339.68
2003:				
July:				
Low/date	343.73/17	4.61/1	669.00/9	166.00/22 and 23
High/date	366.87/28	5.19/28 and 31	698.00/28 and 29	190.00/2
Average	352.25	4.87	684.68	175.27
August:				
Low/date	348.74/4	4.91/12	680.00/4	174.00/13
High/date	376.89/29	5.18/29	714.50/27	207.00/26
Average	361.18	5.03	695.12	185.76
September:				
Low/date	371.28/3	5.02/2	698.00/17	199.00/3
High/date	392.01/25	5.35/11	717.00/9 and 25	235.00/9
Average	380.37	5.21	707.90	214.29
Year to date:				
Low/date	321.09 April 7	4.39 March 24	605.00 April 30	151.00 April 16
High/date	392.01 September 25	5.35 September 11	717.00 September 9 and 25	273.00 January 23
Average	355.33	4.79	669.46	203.47
<u>Handy and Harman:</u>				
2002, Average	310.13	4.62	XX	XX
2003:				
July	351.01	4.86	XX	XX
August	359.91	5.03	XX	XX
September	379.07	5.21	XX	XX
Average year to date	354.08	4.78	XX	XX
<u>London Final:<sup>1</sup></u>				
2002, Average	309.97	4.60	XX	XX
2003:				
July	351.02	4.80	XX	XX
August	359.77	4.99	XX	XX
September	378.95	5.17	XX	XX
Average year to date	354.04	4.75	XX	XX

XX Not applicable.

<sup>1</sup>Silver price reported as "London Spot/US Equiv."

Source: Platts Metals Week.

TABLE 3  
U.S. IMPORTS AND EXPORTS OF GOLD<sup>1</sup>

(Kilograms of gold content, unless otherwise specified)

Period and country	Ores and concentrates <sup>2</sup>	Doré and precipitates	Refined bullion <sup>3</sup>	Ash and residues	Total <sup>4</sup>	Waste and scrap (gross weight)	Metal powder (gross weight)	Gold compounds (gross weight)
<b>Imports for consumption:</b>								
2002	2,720	42,200	172,000	--	217,000	11,900	10,700	18,100
<b>2003:</b>								
June	93	5,410	14,200	--	19,700	947	357	1,610
July	267	7,300	11,500	--	19,100	1,150	285	1,400
<b>August:</b>								
Brazil	--	--	489	--	489	1	--	--
Canada	517	1	6,980	--	7,500	192	2	--
Chile	--	--	1,030	--	1,030	--	--	--
Colombia	--	4,170	791	--	4,960	99	3	--
Dominican Republic	--	--	3	--	3	475	8	--
Germany	--	--	--	--	--	--	--	2,300 <sup>5</sup>
Honduras	--	200	--	--	200	3	225	--
Japan	--	--	--	--	--	--	(6)	125 <sup>5</sup>
Mexico	--	198	795	--	993	208	--	--
Nicaragua	--	230	--	--	230	--	--	--
Peru	--	2,810	--	--	2,810	--	--	--
United Kingdom	--	--	--	--	--	--	--	805 <sup>5</sup>
Other	2	57	249	--	309	109	2	--
Total	520	7,670	10,300	--	18,500	1,090	240	3,230
Year to date	1,110	55,500	92,200	--	149,000	8,090	3,200	27,100
<b>Exports:</b>								
<b>2002</b>								
<b>2003:</b>								
June	52	13,400	38,200	--	51,700	12,600	51	45,300
July	46	16,400	7,670	--	24,100	4,320	42	29,000
<b>August:</b>								
Armenia	--	--	--	--	--	--	27	--
Australia	--	--	--	--	--	--	--	217 <sup>5</sup>
Canada	--	--	23	--	23	4,170	3	17,800 <sup>5</sup>
China	1	--	--	--	1	--	2	--
Dominican Republic	32	--	--	--	32	--	--	--
El Salvador	--	--	--	--	--	--	--	403 <sup>5</sup>
Georgia	1	--	--	--	1	--	--	--
Germany	55	--	--	--	55	183	(6)	385 <sup>5</sup>
Hong Kong	--	--	7	--	7	--	11	1,740 <sup>5</sup>
Israel	--	--	--	--	--	--	2	6,490
Korea, Republic of	--	--	3	--	3	--	--	232 <sup>5</sup>
Mexico	--	--	841	--	841	--	--	330 <sup>5</sup>
Peru	--	--	107	--	107	--	--	--
Switzerland	--	14,000	23,000	--	37,000	--	--	--
Thailand	--	--	--	--	--	--	2	--
United Kingdom	--	7	7,460	--	7,460	11,500	22	--
Other	--	--	191	--	191	55	--	--
Total	90	14,000	31,600	--	45,700	15,900	69	27,600
Year to date	528	81,800	165,000	--	248,000	98,900	615	300,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes gold content of base metal ores, concentrates, and matte imported for refining.

<sup>3</sup>Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

<sup>4</sup>"Waste and scrap," "Metal powder," and "Gold compounds" not included in "Total."

<sup>5</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>6</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF SILVER<sup>1</sup>

(Kilograms of silver content, unless otherwise specified)

Period and country	Bullion	Doré	Ores and concentrates <sup>2</sup>	Ash and residues	Total	Other unwrought silver (gross weight)	Metal powder (gross weight)	Silver nitrate (gross weight)	Semimanufactured form <sup>3</sup> (gross weight)	Waste and scrap (gross weight)
2002	4,020,000	16,600	61,000	63,500	4,160,000	263,000	12,100	572	289,000	816,000
2003:										
June	325,000	20,900	--	2,820	349,000	31,700	1,300	--	25,700	40,400
July	331,000	14,700	--	7,680	353,000	27,100	1,580	5	23,400	15,900
August:										
Australia	--	--	--	661	661	--	--	--	--	14
Brazil	--	--	--	--	--	--	--	--	13,000	16
Canada	105,000	--	594	3,730 <sup>4</sup>	109,000	855 <sup>4</sup>	139 <sup>4</sup>	15 <sup>4</sup>	578 <sup>4</sup>	5,850
Chile	9,300	--	--	--	9,300	--	--	--	--	--
Colombia	--	--	--	1 <sup>4</sup>	1	--	--	--	--	501
Costa Rica	20 <sup>4</sup>	--	--	--	20	--	--	--	--	11,700
Dominican Republic	--	--	--	152 <sup>4</sup>	152	--	--	--	--	65
France	--	--	--	--	--	47	--	--	537	--
Germany	20,000	--	--	--	20,000	--	160	--	4,250 <sup>4</sup>	496
India	--	--	--	--	--	--	--	--	877 <sup>4</sup>	--
Italy	--	--	--	--	--	--	--	--	747 <sup>4</sup>	7,430
Japan	--	--	--	--	--	--	292	--	1,350 <sup>4</sup>	18
Jordan	--	--	--	--	--	--	--	--	--	72
Korea, Republic of	--	--	--	--	--	--	--	--	307	86
Mexico	109,000	21,700 <sup>4</sup>	--	238	131,000	20,800	--	--	--	3,020
Panama	1 <sup>4</sup>	--	--	--	1	120	--	--	--	41
Peru	33,100	--	--	--	33,100	--	--	--	--	--
Philippines	--	--	--	--	--	--	--	--	--	10,500
Poland	--	--	--	--	--	--	--	--	833	--
Spain	--	--	--	--	--	--	--	--	193	--
Switzerland	--	--	--	--	--	--	150	--	--	--
United Kingdom	--	--	--	6,000	6,000	--	163 <sup>4</sup>	--	75	600
Other	--	--	--	1 <sup>4</sup>	1	--	12 <sup>4</sup>	--	37 <sup>4</sup>	117
Total	276,000	21,700	594	10,800	309,000	21,800	916	15	22,800	40,600
Year to date	2,420,000	140,000	1,670	55,600	2,620,000	234,000	10,600	620	212,000	531,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes silver content of base metal ores and concentrates.

<sup>3</sup>Containing 99.5% or more by weight of silver.

<sup>4</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF SILVER<sup>1</sup>

(Kilograms of silver content, unless otherwise specified)

Period and country	Bullion	Doré	Ores and concentrates <sup>2</sup>	Total	Other unwrought silver (gross weight)	Metal powder (gross weight)	Silver nitrate (gross weight)	Semimanufactured form <sup>3</sup> (gross weight)	Waste and scrap (gross weight)
2002	624,000	22,700	230,000	877,000	32,700	360,000	81,200	290,000	2,380,000
2003:									
June	21,400	1,520	--	22,900	1,160	44,100	3,670	22,000	223,000
July	218	2,020	28	2,270	2,540	41,800	3,150	25,300	152,000
August:									
Australia	--	--	--	--	--	--	169	--	--
Belgium	--	--	--	--	--	138	--	318	8,380
Brazil	--	--	--	--	--	--	--	2,490	--
Canada	436	--	--	436	2,600	1,380	4,080	4,520	57,500
China	--	--	--	--	--	--	--	140	19,200
France	--	--	--	--	--	952	--	520 <sup>4</sup>	--
Germany	--	--	--	--	--	4,690	--	356	8,830
Hong Kong	--	--	--	--	17	2,400	--	1,650	260
India	--	--	--	--	1 <sup>4</sup>	30 <sup>4</sup>	--	61	1,430
Israel	--	--	--	--	--	190	--	70	--
Italy	--	--	--	--	--	--	--	130	15,400
Japan	--	--	174 <sup>4</sup>	174	15 <sup>4</sup>	6,730	--	411	295
Korea, Republic of	--	--	--	--	--	5,220	--	3,090	--
Mexico	--	--	--	--	711	1,180	--	15,900	--
Netherlands	--	--	--	--	--	182	--	749	--
Russia	--	--	--	--	--	--	--	--	262
Saudi Arabia	--	--	--	--	--	--	--	--	429
Singapore	--	--	--	--	--	147 <sup>4</sup>	--	1,530	--
South Africa	--	--	--	--	--	--	--	--	6,470
Spain	--	--	--	--	--	--	--	991	--
Sweden	--	--	--	--	--	--	--	127 <sup>4</sup>	16,100
Switzerland	--	1,550	--	1,550	--	62	--	69	--
Taiwan	--	--	--	--	--	6,640	--	171	3,690
Thailand	--	--	--	--	--	--	--	2,490	--
United Kingdom	19,000	--	--	19,000	15 <sup>4</sup>	7,210	--	1,660	2,730
Other	--	--	31	31	294 <sup>4</sup>	145	91	249 <sup>4</sup>	239
Total	19,400	1,550	206	21,200	3,660	37,300	4,340	37,700	141,000
Year to date	133,000	14,000	57,700	205,000	16,900	291,000	41,800	255,000	1,460,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes silver content of base metal ores and concentrates.

<sup>3</sup>Semimanufactured (including silver plated with gold or platinum) forms of silver.

<sup>4</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM-GROUP METALS<sup>1</sup>

(Kilograms of metal content)

Period and country	Platinum grain and nuggets	Platinum sponge	Other unwrought platinum	Platinum, other	Platinum waste and scrap	Platinum coins	Unwrought palladium	Palladium, other	Iridium <sup>2</sup>	Unwrought osmium	Unwrought ruthenium	Rhodium <sup>3</sup>
2002	1,910	72,600	3,490	4,950	77,500	20	94,600	22,000	2,100	36	9,890	8,630
2003:												
June	1	6,160	486	357	26,100	(4)	5,410	2,090	89	3	831	826
July	18	5,130	153	575	71,400	1	11,000	1,360	180	--	1,240	1,330
August:												
Australia	--	--	--	--	--	(4)	--	--	--	--	--	--
Belgium	--	128	--	--	--	--	270	--	--	--	--	35
Brazil	--	63	--	--	2	--	--	--	--	--	--	--
Canada	1	--	--	35	150	--	137	--	--	--	--	--
China	--	--	--	--	2	--	20	--	--	--	--	(4) <sup>5</sup>
Colombia	--	--	19	--	32	--	--	--	--	--	--	--
France	--	--	--	--	13	--	2 <sup>5</sup>	--	--	--	--	--
Germany	--	361	56	211	7,080	--	40	152	--	--	13	22 <sup>5</sup>
India	--	9	--	--	--	--	--	--	--	--	--	--
Israel	--	--	31	--	--	--	--	--	--	--	--	--
Italy	--	14	--	--	--	--	--	32	--	--	--	--
Japan	--	--	43	--	2,810	--	161 <sup>5</sup>	48	--	--	--	1 <sup>5</sup>
Korea, Republic of	--	--	--	--	4,590	--	--	--	--	--	--	--
Mexico	--	--	--	1	--	--	--	--	--	--	--	--
Netherlands	--	--	--	(4) <sup>5</sup>	--	--	--	--	--	--	--	--
New Zealand	--	--	--	--	6	--	--	--	--	--	--	--
Norway	--	202	--	--	--	--	319	109	--	--	--	12
Philippines	--	--	--	5	2	--	--	--	--	--	--	--
Russia	--	111	348	--	--	--	3,510 <sup>5</sup>	501	--	--	--	16
South Africa	6	3,320	--	48	--	--	2,860	--	189 <sup>5</sup>	--	2,470	735
Switzerland	--	--	2	9	--	--	75	47	--	--	--	--
United Kingdom	--	923	25	7	7,570	--	156 <sup>5</sup>	294	73	--	--	318 <sup>5</sup>
Venezuela	--	--	2	--	154	--	--	--	--	--	--	--
Total	7	5,130	526	316	22,400	(4)	7,550	1,180	262	--	2,480	1,140
Year to date	512	46,900	4,680	3,710	138,000	7	49,400	15,300	1,450	13	11,500	8,260

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Unwrought and other forms of iridium.

<sup>3</sup>Unwrought and other forms of rhodium.

<sup>4</sup>Less than 1/2 unit.

<sup>5</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 7  
U.S. EXPORTS OF PLATINUM-GROUP METALS<sup>1</sup>

(Kilograms of metal content, unless otherwise specified)

Period and country	Palladium <sup>2</sup>	Platinum <sup>2</sup>	Platinum waste and scrap	Iridium, osmium, and ruthenium <sup>2,3</sup>	Rhodium <sup>2</sup>
2002	42,700	27,800	17,700	1,990	349
2003:					
June	1,850	2,320	2,610	101	2
July	1,300	1,780	1,570	80	15
August:					
Australia	8	12	--	1	--
Austria	--	1	--	--	--
Brazil	--	2	--	--	--
Canada	174	161	43	21	(4) <sup>5</sup>
China	30	--	--	--	--
Czech Republic	--	10	--	--	--
Denmark	4	--	--	--	--
Dominican Republic	--	--	--	(4) <sup>5</sup>	--
France	33 <sup>5</sup>	3	--	--	--
Germany	366 <sup>5</sup>	662 <sup>5</sup>	8	--	--
Hong Kong	39 <sup>5</sup>	11 <sup>5</sup>	1	--	(4) <sup>5</sup>
India	--	(4)	--	--	(4) <sup>5</sup>
Ireland	(4)	216	--	--	1
Israel	--	1	--	--	--
Japan	120 <sup>5</sup>	177 <sup>5</sup>	102	--	30
Korea, Republic of	2	59 <sup>5</sup>	--	--	--
Lebanon	--	--	--	--	(4) <sup>5</sup>
Liechtenstein	1	2	--	--	--
Malaysia	--	1	--	--	--
Mexico	9 <sup>5</sup>	7	--	--	(4) <sup>5</sup>
Netherlands	150	4	--	--	--
New Zealand	7	--	--	--	--
Norway	15 <sup>5</sup>	1	--	--	--
Philippines	1	2	--	--	--
Romania	--	1	--	--	--
Singapore	4 <sup>5</sup>	2 <sup>5</sup>	--	13	1 <sup>5</sup>
Slovenia	1	--	--	--	--
South Africa	--	11	--	--	--
Sweden	13	1	--	--	--
Switzerland	3	9	207	--	--
Taiwan	268 <sup>5</sup>	15	--	--	--
Thailand	20 <sup>5</sup>	--	--	--	(4) <sup>5</sup>
Turkey	1	--	--	--	--
United Kingdom	444 <sup>5</sup>	2,990 <sup>5</sup>	1,090	118	2 <sup>5</sup>
Total	1,710	4,360	1,450	152	34
Year to date	13,700	16,400	15,800	691	196

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Unwrought and other forms.

<sup>3</sup>Gross weight.

<sup>4</sup>Less than 1/2 unit.

<sup>5</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 8  
LEADING GOLD-PRODUCING MINES IN THE UNITED STATES THROUGH THE THIRD QUARTER OF 2003, IN ORDER  
OF OUTPUT<sup>1</sup>

Rank	Mine	County and State	Operator	Kilograms
1	Newmont Nevada operations <sup>2</sup>	Various counties, NV	Newmont Gold Company	52,700
2	Betze-Post/Goldstrike	Eureka, NV	Barrick Gold Corporation	38,400
3	Cortez	Lander, NV	Placer Dome Inc.	25,900
4	Round Mountain	Nye, NV	Round Mountain Gold Corporation	18,800
5	Meikle/Goldstrike	Elko, NV	Barrick Gold Corporation	12,600
6	Fort Knox <sup>3</sup>	Fairbanks, AK	Fairbanks Gold Mining Inc.	9,060
7	Jerritt Canyon	Elko, NV	Independence Mining Company, Inc.	7,270
8	Bingham Canyon <sup>4</sup>	Salt Lake, UT	Kennecott Utah Copper Corp.	6,630
9	Cresson	Teller, CO	Cripple Creek & Victor Gold Mining Co.	6,450
10	Golden Sunlight	Jefferson, MT	Placer Dome Inc.	5,630
11	Marigold	Humboldt, NV	Glamis Gold Ltd.	3,210
12	Florida Canyon	Pershing, NV	Florida Canyon Mining, Inc.	2,420
13	Greens Creek	Juneau, AK	Kennecott Greens Creek Mining Co.	2,340
14	Bald Mountain	White Pine, NV	Placer Dome Inc.	2,300
15	Getchell/Turquoise Ridge	Humboldt, NV	do.	1,700
16	Wharf	Lawrence, SD	Wharf Resources, Ltd.	1,660
17	Denton-Rawhide	Mineral, NV	Kennecott Rawhide Mining Co.	1,520
18	Rochester	Pershing, NV	Coeur d'Alene Mines Corp.	1,280
19	Briggs	Inyo, CA	Canyon Resources Corp.	956
20	Barney's Canyon	Salt Lake, UT	Kennecott Barney's Canyon Mining Co.	902
21	Rand	Kern, CA	Glamis Rand Mining Co.	889
22	Illinois Creek <sup>5</sup>	Yukon-Koyukuk, AK	American Reclamation Group LLC	498
23	Castle Mountain	San Bernardino, CA	Viceroy Resources Corporation	360
24	Beartrack	Lemhi, ID	Meridian Gold Inc.	108
XX	Homestake	Lawrence, SD	Homestake Mining Company	(6)
XX	McCoy/Cove	Lander, NV	Newmont Gold Company	(6)
XX	Mesquite	Imperial, CA	do.	(6)
XX	Midas	Elko, NV	Euro-Nevada Mining Co.	(6)
XX	Montana Tunnels	Jefferson, MT	Montana Tunnels Mining, Inc.	(6)
XX	Ruby Hill	Eureka, NV	Homestake Mining Company	(6)

XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; these mines accounted for more than 99% of the U.S. gold production through the third quarter of 2003.

<sup>2</sup>Includes Battle Mountain Gold, Carlin Mines Complex, Lone Tree, Twin Creeks, and Reona.

<sup>3</sup>Mine production refers to gold equivalent produced.

<sup>4</sup>Mine production refers to total quantity of gold produced in concentrates.

<sup>5</sup>Estimate from State annual report.

<sup>6</sup>Production information for Homestake, McCoy/Cove, Mesquite, Midas, Montana Tunnels, and Ruby Hill is withheld; mines are among the top 30 gold-producing mines in the United States, but are not shown in rank order to avoid disclosing company proprietary data.

Sources: Company quarterly reports, Securities and Exchange Commission's 10-Q reports and company news releases.